

Community Assistantship Program

...a program of the Center for Urban and Regional Affairs (CURA)

Opportunities and Constraints for Winona's Riverfront

Prepared in partnership with
The Center for Changing Landscapes
and
The City of Winona

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TABLE OF CONTENTS

Executive Summary	4
Goals	6
Key Findings: Opportunities and Constraints	7
1. Renew Winona’s River-Based Identity	8
2. Reclaim Levee Park as Front Porch of Winona	10
3. Integrate Levee Park into a Larger Riverfront System	14
4. See the Riverfront as a Park with a River Running Through It	16
5. See the River as the “Natural Main Street”	17
6. Enhance the Vibrancy and Economy Brought by Grassroots Cultural Initiatives Related to the River	19
<i>Study: Investigating Trends in Employment in Winona from 1950 to 2010.</i>	20
7. Avoid the Unintentional Consequences of Infrastructure	25
Conclusion	29
References	30

EXECUTIVE SUMMARY



Figure 1 . Winona Riverfront Study Area

Located on the banks of the Mississippi River in southeastern Minnesota, the City of Winona's scenic, ecological, and cultural characteristics are some of its strongest assets. Winona is clearly a community with important connections to its water resources. Some of these connections are utilized effectively, some connections are in need of re-connection, and other connections are less understood or under-developed. The research project begins with an understanding that the physical context - including over 50 miles of river, lake, and wetland shoreline within its municipal boundary- is a key asset to the identity and resilience of the community. Winona's waterfronts include an amazing range of public spaces from the passive 'traditional' park spaces along Lake Winona to the ecologically rich wetlands, sloughs, riparian forest islands and the current Levee Park in the city's center.

Much of Winona's riverfront and water frontages are unrealized city amenities. With over 8 miles of shoreline along the Mississippi River, Winona is clearly well positioned to improve public access, recreation, and other programming that celebrates its connection to the river, strengthens its economic vitality, supports tourism, and enhances the community as an enjoyable place to live.

Like many post-industrial river cities, Winona is a water city that has turned its back on its waterfront. Levee Park and the city's surrounding environments have ceased to be the welcoming place of civic activity that it has been in the past. Currently it is a rarely used space dominated by a concrete flood control structure.

This research project examined Opportunities and Constraints for rethinking land use and programming along the riverfront in Winona. After a two-day site visit and meetings with local stakeholders, the Center for Changing Landscapes identified seven major opportunities for Winona. These opportunities considered historical, large scale trends in Winona and will inform how the Center moves forward with scenario planning and vision planning in the fall of 2013.

The primary opportunities identified by this research are:

- 1. RENEW WINONA'S RIVER-BASED IDENTITY**
- 2. RECLAIM LEVEE PARK AS FRONT PORCH OF WINONA**
- 3. INTEGRATE LEVEE PARK INTO LARGER RIVERFRONT SYSTEM**
- 4. SEE THE RIVERFRONT AS A PARK WITH A RIVER RUNNING THROUGH IT**
- 5. SEE THE RIVER AS THE "NATURAL MAIN STREET"**
- 6. ENHANCE THE VIBRANCY BROUGHT BY GRASSROOTS CULTURAL INITIATIVES + RIVER**
- 7. AVOID UNINTENTIONAL CONSEQUENCES OF INFRASTRUCTURE**

Details on these opportunities and how they can inform future changes can be found in sections below.

GOALS

The City of Winona has partnered with the College of Design's Center for Changing Landscapes to collaborate with the community to articulate and communicate a clear vision for the riverfront as well as a roadmap for its implementation.

The goal of this research project is to aid the Center in creating a vision that will serve as an implementation guide of physical and programmatic improvements needed to stimulate a renewed public interest in the riverfront and to "give the riverfront back" to Winona's residents and visitors. The vision must build on previous planning, empower future planning and existing civic leadership, respond to physical, cultural, and political contexts, and support implementation.

This report analyzes the potential of the riverfront and its place within the City of Winona. The key questions asked in the research were:

- What is the context of Winona's 9-mile riverfront environment?
- What are the specific physical and cultural characteristics of the riverfront environment?
- What are the previous and existing municipal and regulatory contexts that drive (constrain or leverage) the current and future riverfront environment?
- How does the riverfront relate to other aquatic environments, Winona's Downtown, and the city as a whole?
- As we begin to imagine a redesigned riverfront park and waterfront that improves the status of Levee Park and effectively connects to the community and the park's historic legacy, what are the current opportunities and constraints of this site that could impact how it is designed in the future?

The final goal of this report is to provide answers to these questions in a digestible format for the Winonan community. The research materials generated in this report are foundational tools for engaging in a critical discourse regarding past and future changes to the Winona riverfront and Levee Park. By documenting opportunities and challenges, we can frame the issues needed to be addressed for an effective vision of a future park and waterfront that are strongly connected to the rest of the city.

The research is intended to:

- Engage both the park committee and the general public. Project work was presented at Levee Park Committee meetings for feedback and it will inform committee discussions and actions.
- Be displayed at community meetings, community events, and posted on Winona's website to engage the city residents in the park/waterfront work and to receive suggestions and comments.
- Support city efforts to fund implementation of the vision.

KEY FINDINGS: OPPORTUNITIES AND CONSTRAINTS

The Center for Changing Landscapes has identified seven major opportunities for Winona's riverfront. These opportunities were discerned from general economic and social trends, and stand to frame future community decisions with regard to the riverfront and those areas of the city that connect to it.

The seven major opportunities discerned by the team are:

1. Renew Winona's river-based identity
2. Reclaim Levee Park as front porch of Winona
3. Integrate Levee Park into larger riverfront system
4. See the riverfront as a park with a river running through it
5. See the river as the "natural main street"
6. Enhance the vibrancy brought by grassroots cultural initiatives relating to the river
7. Avoid the unintentional consequences of infrastructure

Each of these opportunities was examined at three different scales, informing "What could happen?" at a regional scale, in downtown, and within the boundaries of Levee Park itself.

1. RENEW WINONA'S RIVER-BASED IDENTITY

Winona's relationship to the river reflects the history of the city itself. In the 1800s, as the aerial illustration shows below, Winona was a prosperous river-town with industry and trade lining the riverfront. The riverfront was the civic space of the 19th century, where people mingled freely with railroad infrastructure and industrial activity.



Photo of aerial image featured in Winona City Hall, June 2013.



Winona County Historical Society



Winona County Historical Society



Winona County Historical Society



Valley of the Mississippi from Winona, Minnesota. Wikipedia.org

By the mid-20th century, industry and infrastructure dominated the riverfront. The river still played an important role in defining the city's identity, but expanded road networks and rail systems reduced the critical role of the river as a lifeblood of the community. The geography of the riverfront reflected the economic forces of the time.

Now, in the 21st century, Winona is developing a new identity. The riverfront is still an active port and industrial hub, but it is also the namesake of several arts and music festivals based in Winona. The Great River Shakespeare Festival, Frozen River Film Festival, Steamboat Days Festival and many more draw tens of thousands of visitors to Winona each year. This recent activity embodies a rising culture of arts and entertainment in Winona.

Given the decline of industry transportation and infrastructure, and rising cultural initiatives, Winona has an opportunity to reclaim its river-based identity in a new way.

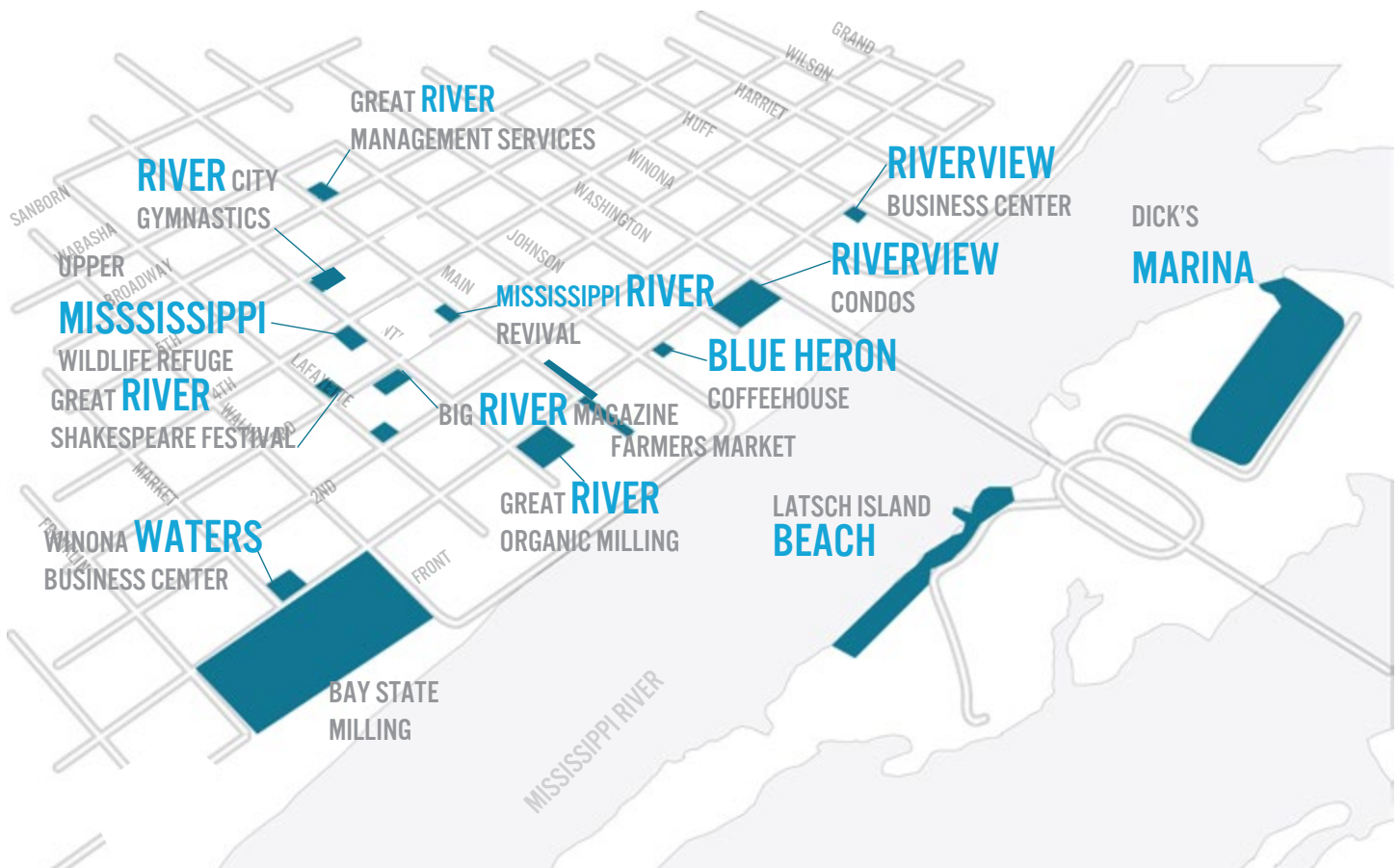


Figure 2. River-based activities in Downtown Winona.

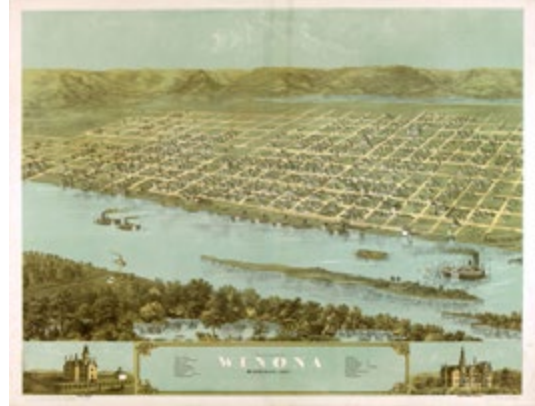
DOWNTOWN WINONA

There are already several river-focused organizations, businesses and amenities in downtown Winona as demonstrated in Figure 2 above. One potential opportunity would be to expand these activities and connect them to the riverfront, as suggested in sections below.

2. RECLAIM LEVEE PARK AS FRONT PORCH OF WINONA



Winona County Historical Society



Winona County Historical Society

An example of Winona's shift in identity over history is the shift away from the riverfront as the "front yard" of the city. In the 19th century and early 20th century, development was focused around the riverfront (as compared to the lake and the bluffs, as can be seen in the 1876 aerial image above). People gathered in Levee Park and other riverfront public spaces. The riverfront was permeable and connected to downtown via open streets over the railroads.



Winona County Historical Society, Highlights by author.

As the riverfront became dominated by industry and infrastructure, and the population of the American middle class grew, an increasing number of people purchased vehicles and residential homes away from the center of town. Following this development, Winona began to focus more on its "backyard" as a civic space. Lake Winona and the bluffs at the south end of the city are now the sites for festivals, parades, picnics and park maintenance funding.

Winona has an opportunity to carry the same civic momentum to the riverfront and reclaim it as a different form of public space, one that "opens" Winona up to the river. The City has already heralded this general idea as a goal in their own comprehensive planning process that took place in 2007. The plan states:

"Be River Focused..."

by focusing on and capturing the natural allure of the river and appreciation for its history through appropriate land use."

Winona Riverfront Redevelopment Plan, 2007

"Winona's multi-faceted relationship to the Mississippi River sustains the City's economic system, natural resources, and social and cultural character.

The developed shoreline incorporates a vibrant port area and recreational boat docks, as part of a linear open space corridor emphasizing the River's natural systems.

Green pedestrian and bike trails connect Levee Park, the downtown, Winona's cultural landmarks, college and university campuses..."

Winona Comprehensive Plan, 2007

The diagrams below illustrate the general opportunity for Winona to spatially focus the cultural momentum of events, recreation and development on the river, while concurrently opening the city to the river. “Opening” the city would mean fulfilling Winona’s vision laid out in the 2007 Comprehensive Plan to “Create recreational opportunities that will appeal to downtown residents of the rest of Winona, and visitors. Recreational opportunities are those that relate to use of the river and riverfront (boating, biking, fishing, etc.) as well as the City’s extensive upland trail and park resources.”

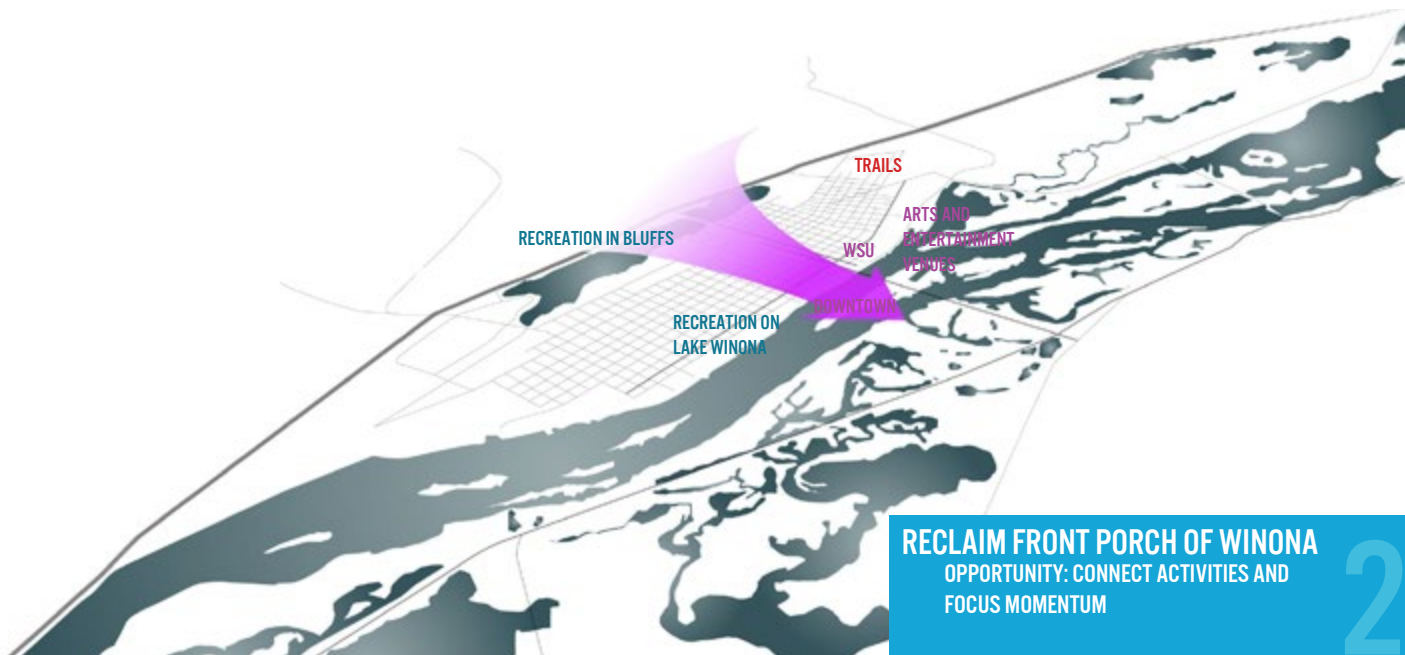


Figure 3. Slide from community presentation demonstrating focus of “momentum” of activities toward riverfront.

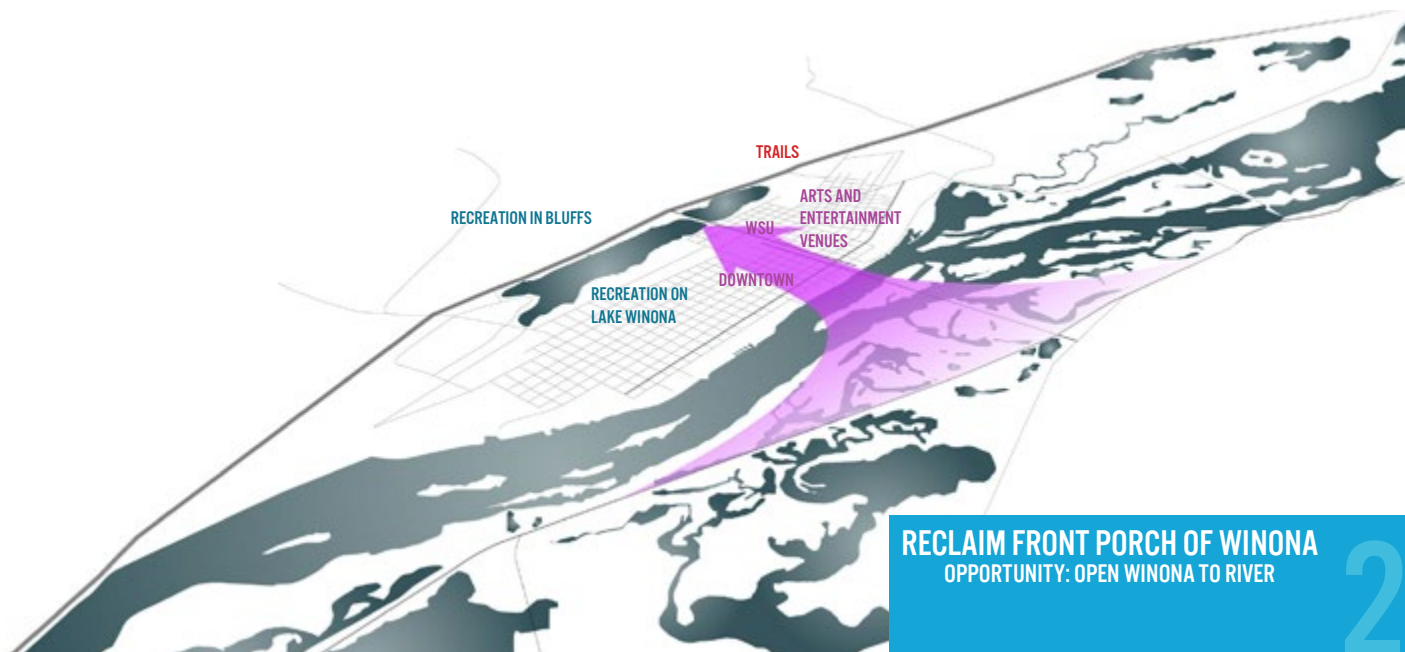


Figure 4. Slide from community presentation demonstrating focus of “momentum” of activities into the city from the riverfront.



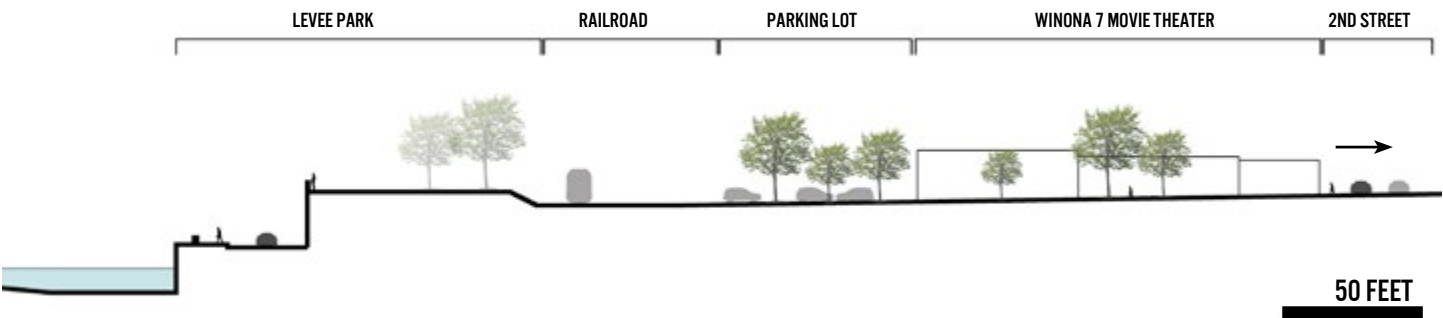
Photo from archdaily.com



Photo from e-flux.com

Oslo, Norway presents one precedent of creating a “front porch” out of the riverfront. An opera house in Oslo operates almost literally as a “porch” to the river, allowing visitors to touch the water and also thematically connecting recreation and the arts at a riverfront hub to the city.

In Winona, the levee wall constructed by the Army Corps of Engineers in the 1960’s provides the most significant barrier to achieving this opportunity. The levee wall skirts the entire city and becomes a concrete wall in Levee Park. The section drawing below demonstrates the sight barrier this creates for pedestrians downtown.



Section: 2nd Street to the Mississippi River, down Main Street.



Photos facing towards the Mississippi River from downtown Winona. By James Clinton (left), Erin Garnaas-Holmes (right)

When considering access to the “front porch” of Winona, many committee members have discussed the importance of a “gateway” into Levee Park. The primary street entrances leading into Levee Park are Johnson Street, Main Street and Walnut Street. These are all opportunities to reconsider as new entrances into, and exits-out-of, downtown Winona via Levee Park.

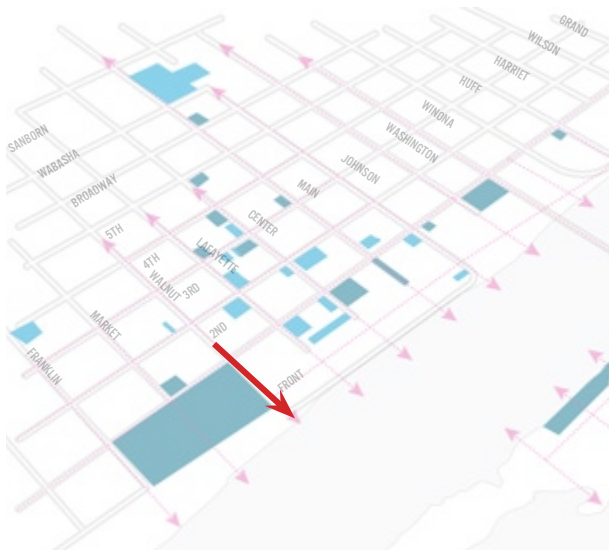
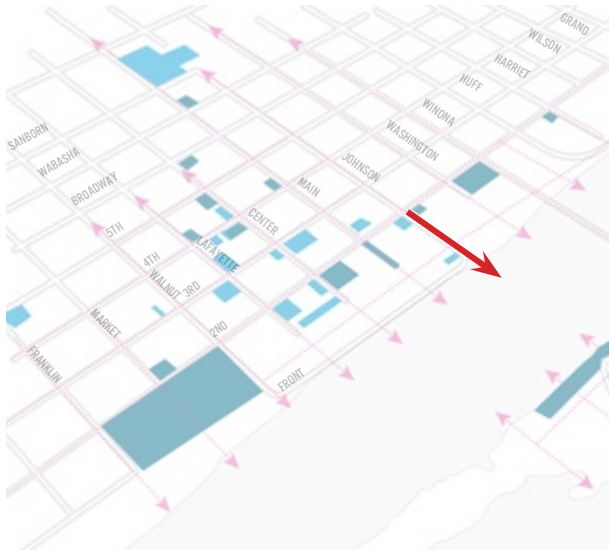


Figure 5. Diagrams and photos highlighting three potential “gateways” into Levee Park and the riverfront from downtown.

3. INTEGRATE LEVEE PARK INTO LARGER RIVERFRONT SYSTEM

Another significant opportunity for Winona is to integrate any redesign of Levee Park into a much larger riverfront system. An example of this can be seen by examining the connection between recreational amenities and a bicycle trail network along the river. Building and maintaining new bicycle trails in places of apparent “missing connections” would help integrate Levee Park and other riverfront spaces into a larger park system.



“Non-motorized Transportation. Establish a safe and efficient non-motorized transportation system that accesses all parts of Winona and the regional trail network.”

2007 Winona Comprehensive Plan

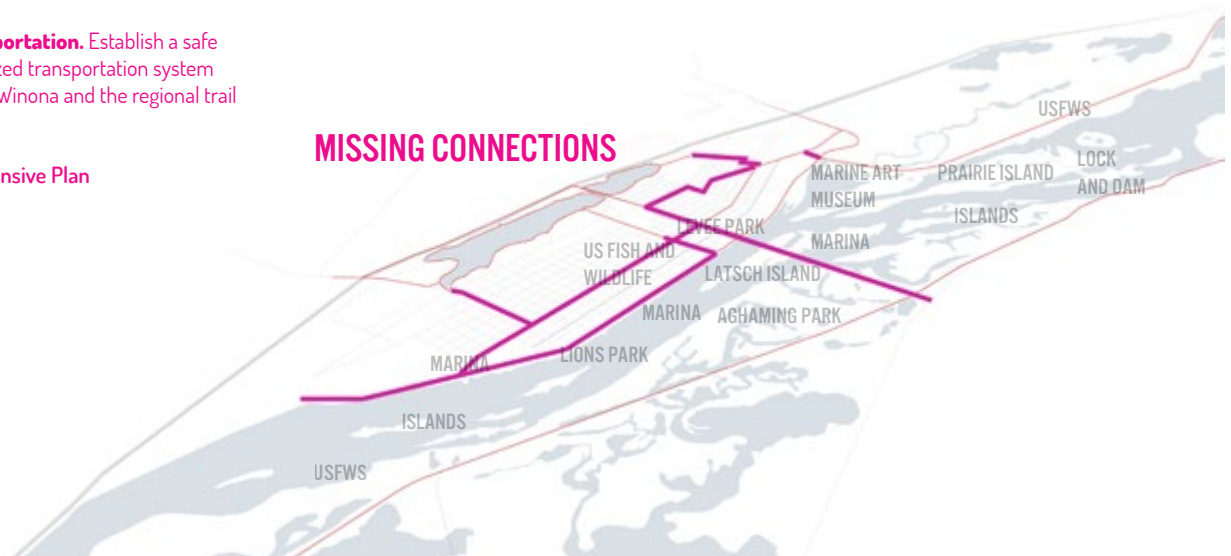


Figure 6. Existing trail systems and opportunities for greater network connections in Winona.

The “missing connections” highlighted above stem from the 2007 Comprehensive Plan for Winona, Winona City’s Bicycle Trail Map and a previous community effort that hoped to extend the levee trail bicycle path along the entire riverfront (but failed due to lack of cooperation amongst property owners).



Downtown Winona can play an important role in bridging the “missing connections” between trail networks in greater Winona. Expansion of bicycle lanes and pedestrian walkability would help Winona achieve the goals of its 2007 Plan to “enhance the accessibility and view of the Mississippi River from within the downtown district,” make “Main Street... the ‘gateway’ to Levee Park,” “create a comfortable and safe access to Levee Park,” and “make the downtown area of the riverfront accessible to recreational boating traffic.”

The diagram below highlights potential trail connections and proximity to the State Water Trail of the Mississippi River in downtown. One notable opportunity is the connection from the planned bridge from Latsch Island to Winona proper that could bring pedestrians and cyclists directly off of the bridge and onto the riverfront.



Figure 7. Potential trail connections in downtown Winona.

4. SEE THE RIVERFRONT AS A PARK WITH A RIVER RUNNING THROUGH IT

Previous discussions between the Center for Changing Landscapes and the Winona Riverfront Committee led to a conversation defining the entire riverfront as one park that has a river running through it, rather than as several separated public spaces located against the edge of the river.



Photos from Winona County Historical Society.



Photos and postcards of the riverfront prior to Levee Park illustrate the congregation of people on both sides of the river, thereby framing the park and focusing attention to the river from multiple points. Evidence for this is included in historic imagery of the well-attended Latsch Island Beach House. Once a thriving beach amenity, the building has since been removed and the beach is poorly maintained. A primary opportunity to revive this riverfront setting is to think of the entire space of the river valley and re-develop it as such, rather than a single area of riverfront development. This directly supports the efforts to fit Levee Park into a larger riverfront system.

During a visit with community members in June, 2013, the research team asked residents to define downtown by drawing a line on a map of Winona. Some lines did not touch the Mississippi River, but at least one participant's definition of downtown included the riverfront and extended halfway across the river itself. The opportunity identified through this process, by CCL and residents themselves, was for Winona to reconsider its downtown as part of the riverfront, and the riverfront as part of a massive network of spaces that includes one the largest rivers in the world.



Community members' varying definitions of "downtown" marked on a map. Photo by Matthew Tucker.

5. SEE THE RIVER AS THE “NATURAL MAIN STREET”

“Winona’s multi-faceted relationship to the Mississippi River sustains the City’s economic system, natural resources, and social and cultural character.”

“Aghaming Park, river islands, and restored shoreland areas sustain habitat for native flora and fauna and allow residents and visitors to enjoy Winona’s natural history. River and rail connections continue to bring jobs and tax base that diversifies the local economy.”

Winona Comprehensive Plan, 2007

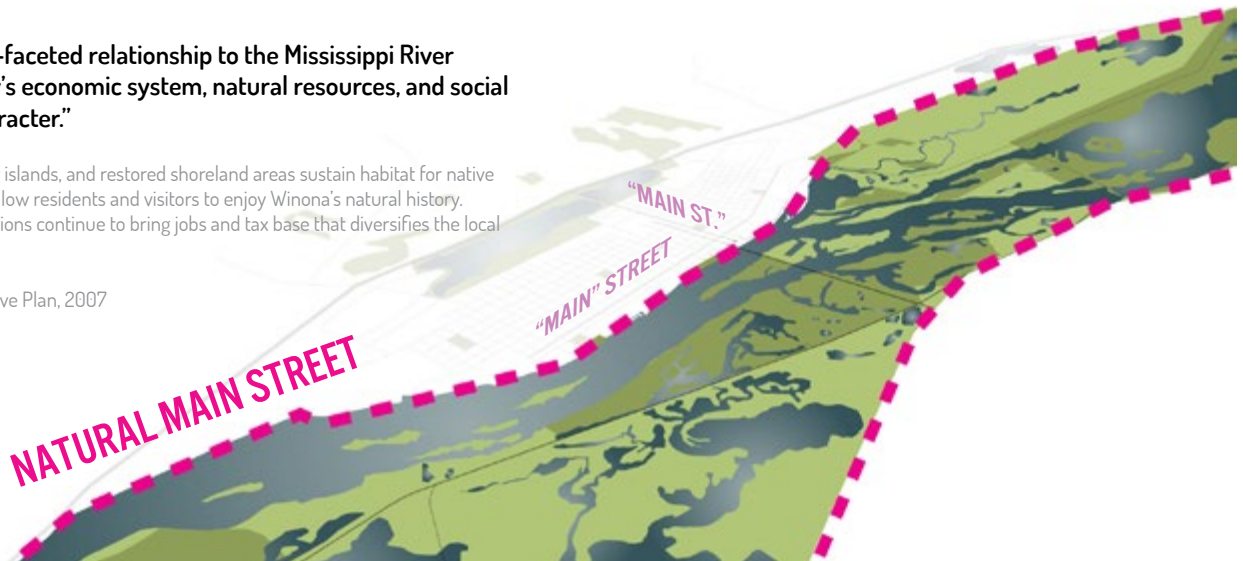


Figure 8. Seeing the river as the “natural main street” of Winona.

Much attention is paid to revitalizing “main street” in small towns across the country. Winona also currently has a “Main Street Program” aiming to revitalize Third Street, the “main street” of Winona’s downtown. One opportunity this momentum provides is that of a new perspective where Winonans think of the entire Mississippi River Valley as a natural “main street.” As Winona has already identified in its Comprehensive Plan, the city’s “relationship to the Mississippi River sustains the City’s economic system, natural resources, and social and cultural character.” This “main street” is already in use by many Winonans, for recreation (fishing, boating, etc.), transportation (bridges, boats) and habitation (there is a community of boat houses on Latsch Island). Spending resources to enhance the experience of the river could benefit the city as a whole and accomplish its vision to “Be river focused” (Winona Riverfront Revitalization Plan, 2007).

One precedent of a city that has embraced a river as it’s “main street” is Chattanooga, TN.

Chattanooga, TN



Chattanooga has redefined itself as a recreational haven and used its riverfront as a network of public space that links businesses and recreational activities together. This self-redefinition has helped the city avoid the decline faced by many post-industrial cities in America.



Winona County Historical Society



Winona County Historical Society



Winona County Historical Society

Winona, meanwhile, has its own history of treating the river as a “main street.” The riverfront was once a place of economic activity, a transportation hub and a civic space. While much of this activity has geographically shifted within Winona, there are still residents who use the river. Recreational activity like fishing and kayaking is still popular, but occurs more frequently on Lake Winona (according to tourist services).



Let's Go Fishing With Seniors



Latsch Island Beach - visitwinona.com

Winona has an opportunity to grow the recreational activities it already offers. Winona can invest in new opportunities to draw tourists to the region, provide recreation options to current residents and connect riverfront redevelopment to other growing activities.



Figure 9. Sample of recreational activities on the Mississippi River near Winona.

Winona has an opportunity to recognize the growth of the sector of its own economy that is based in cultural initiatives and project its own economic future.

STUDY:

Investigating Trends in Employment in Winona from 1950 to 2010.

METHODOLOGY:

A research study was performed in order to investigate the growth of employment in the industries of the Arts, Entertainment, Recreation and Food Services in Winona over time. To do this, U.S. Census data on employment by industry was compared over time. Decennial U.S. Census reports from 1950, 1960, 1970, 1980, 1990, 2000 and 2010 were examined, and data on the Economic Characteristics of the Population in Minnesota State was extracted for comparison. These reports can be found at the U.S. Census Factfinder (factfinder2.census.gov) for 2000 and 2010, and otherwise at <http://www.census.gov/prod/www/decennial.html>.

In order to compare “apples to apples,” all data was extracted from the same section of the Census report: Characteristics of the Population > Economic Characteristics of the Population > Employment by Industry Group. Different decennial censuses organize this information in different chapters and sections, but all data compared similar fields of employment by industry to geographical location. Data for the statistical or urban area of Winona was available in some reports but not all, so data for Winona County was used for comparison across years. Since the categories of “Industry Group” in 1950 are not identical to the categories of 2010, certain industries were re-categorized to match the 2010 Industry Group delineations. For example, in 1950, the Industry Groups reported by the Census Bureau were:

- Agriculture
- Forestry and fisheries
- Mining
- Construction
- Manufacturing
- Railroads and railway express service
- Trucking service and warehousing
- Other transportation
- Telecommunications
- Utilities and sanitary services
- Wholesale trade
- Food and dairy product stores and milk retail
- Eating and drinking places
- Other retail trade
- Finance, insurance and real estate
- Business services
- Repair services
- Private households
- Hotels and lodging places
- Other personal services
- Entertainment and recreation services
- Medical and other health services
- Educational services, government
- Educational services, private
- Other professional and related services
- Public administration

Whereas the Industry Group categories in the 2010 Census were:

Agriculture, forestry, mining, hunting and fishing
 Construction
 Manufacturing
 Transportation, warehousing and utilities
 Wholesale trade
 Retail trade
 Educational services, health care and social assistance
 Professional, scientific, management, administrative and waste management services
 Arts, entertainment, recreation, accommodation and food services
 Information
 Other services
 Public administration

For this research, older Industry Group categories were nested into the 2010 categories. The following changes were made to organize data in a comparable manner:

- “Agriculture”, “Forestry”, “Fishing”, and “Mining” were consolidated into the single 2010 category.
- “Railroads and railway express service”, “Trucking service and warehousing”, “Other transportation”, “Telecommunications” and “Utilities and sanitary services” were consolidated into “Transportation, warehousing and utilities”
- “Food and dairy product stores and milk retail” and “Other retail trade” were categorized under “Retail trade”
- “Eating and drinking places”, “Private households”, “Hotels and lodging places”, “Entertainment and recreation services” were categorized under “Arts, entertainment, recreation, accommodation and food services”
- “Medical and other health services”, “Educational services, government” and “Educational services, private” were combined under “Educational services, health care and social assistance”
- “Finance, insurance and real estate”, “Business services” and “Repair services” were categorized under “Professional, scientific, management, administrative and waste management services”
- “Public administration” remained the same category
- All other categories were considered “Other services”

To observe changes in employment patterns over time, the percentage of the employed population working in each industry was calculated in each decade:

E_i/E_t where E_i is the employment in an industry i and E_t is total employment in the region.

These data were then plotted on a chart ranging from 1950 to 2010 (See Table 1 and Figure ___ for data and visualization).

LIMITATIONS

Since these categories were manually organized and since patterns of assigning different occupations to specific categories may have shifted over time, and since the Census itself is a projection of a sample and not a complete dataset, this data may then be more able to represent thematic shifts than aid in detailed analyses.

RESULTS

Comparing data on occupation by industry from decennial U.S. Census reports from 1950–2010, recent trends in employment become apparent. Employment in Arts, Entertainment, Recreation and Food Services has been steadily growing in past decades, employing 13.3% of employed Winonans in 2010. Meanwhile, Manufacturing, which once was the dominant force in Winona and which dictated the form of the riverfront, has decreased since 1950 and now only employs 16.4% of employed Winonans.

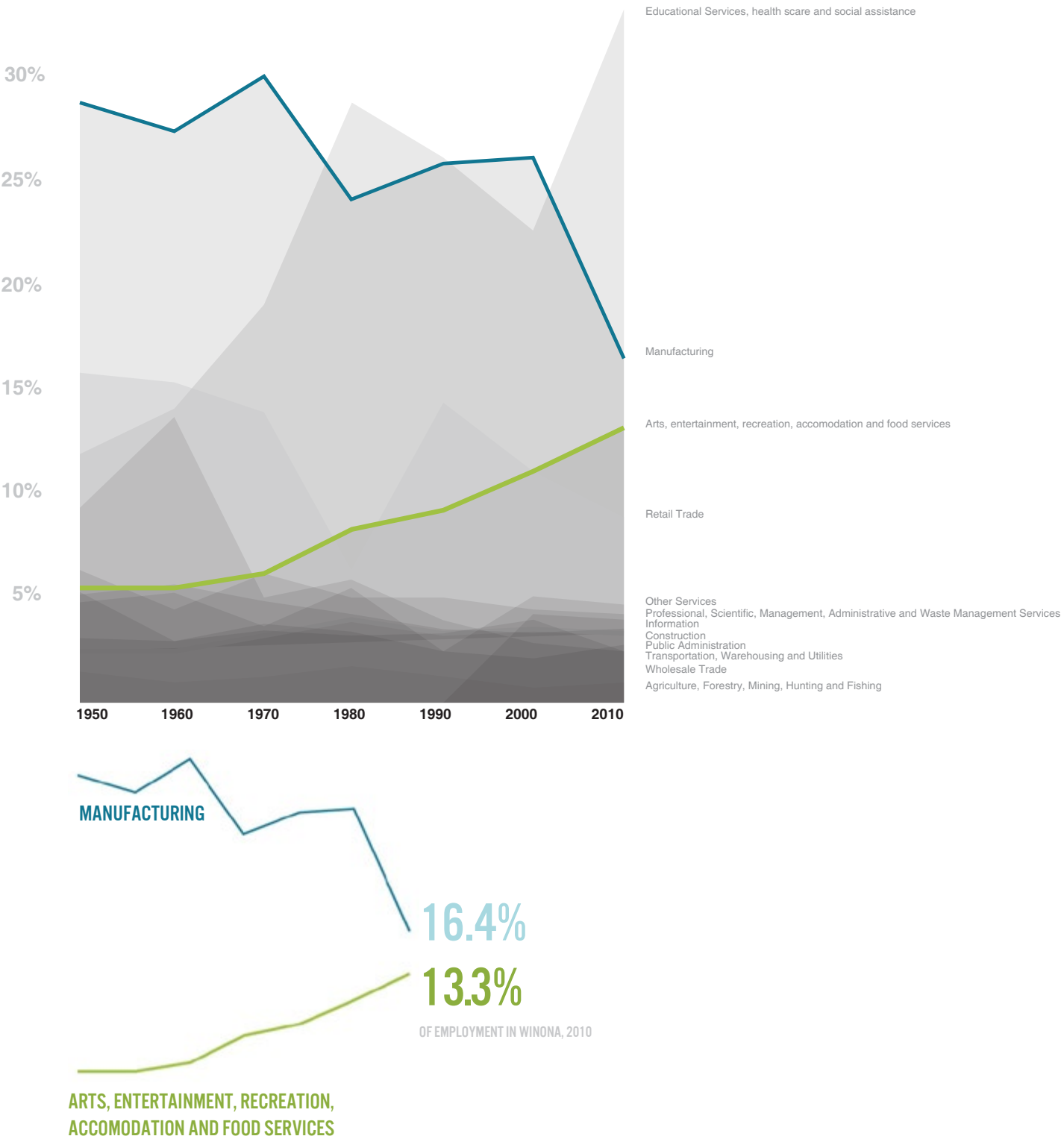


Figure 11.. Proportional Employment by Industry in Winona County between 1950 and 2010. Data from the U.S. Census.

Occupation	1950	1950 Proportion	1960	1960 Proportion	1970	1970 Proportion	1980	1980 Proportion	1990	1990 Proportion	2000	2000 Proportion	2010	2010 Proportion
Agriculture, forestry, fishing and hunting, and mining	140	1.5%	07	1.0%	10	1.2%	176	1.7%	149	1.2%	111	0.7%	140	0.9%
Construction	481	5.2%	551	5.6%	452	4.9%	417	4.3%	423	3.4%	503	3.2%	540	3.5%
Manufacturing	2,694	28.7%	2,693	27.3%	2,607	29.3%	2,312	24.0%	2,307	25.8%	4,682	46.8%	2,559	26.4%
Wholesale trade	401	5.3%	298	2.9%	328	3.5%	300	3.2%	411	3.3%	619	4.0%	355	2.2%
Retail trade	1,454	15.7%	1,403	15.2%	1,203	13.0%	890	9.3%	1,281	14.3%	1,687	16.8%	1,380	18.0%
Transportation and warehousing, and utilities	980	10.4%	1,340	13.7%	486	4.9%	612	5.6%	404	4.0%	435	2.6%	305	2.5%
Information	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	623	4.0%	628	4.0%
Finance and insurance, and real estate and rental and leasing	224	2.4%	232	2.4%	300	3.2%	407	3.9%	403	3.2%	541	3.5%	55	0.3%
Professional, scientific, and management, and administrative and waste management services	601	6.5%	410	4.2%	570	6.1%	536	5.0%	514	4.9%	688	4.4%	861	4.3%
Educational services, and health care and social assistance	1,104	11.9%	1,381	14.1%	1,294	13.9%	2,002	28.6%	2,207	25.0%	2,403	22.4%	5,145	30.1%
Arts, entertainment, and recreation, and accommodation and food services	504	5.4%	541	5.5%	563	6.0%	65	0.1%	1,03	0.1%	1,688	16.8%	2,065	12.3%
Other services, except public administration	452	4.9%	521	5.3%	300	3.8%	597	5.7%	204	2.4%	704	5.1%	720	4.8%
Public administration	287	3.1%	273	2.8%	251	2.7%	353	3.4%	318	2.5%	35	0.2%	410	2.7%
Total	9,271		9,823		9,415		10,495		12,127		15,594		5,551	

UNITED STATES	1950	1950 Proportion	1960	1960 Proportion	1970	1970 Proportion	1980	1980 Proportion	1990	1990 Proportion	2000	2000 Proportion	2010	2010 Proportion
Agriculture, forestry, fishing and hunting, and mining	734,166	14.7%	1,601,690	8.9%	1,810,973	5.0%	1,654,145	2.2%	3,838,376	3.4%	2,426,653	19%	2,720,289	10%
Construction	1,139,431	8.4%	1,381,477	6.9%	1,497,247	8.9%	1,403,290	5.6%	7,214,793	6.3%	8,802,407	6.8%	8,591,727	6.1%
Manufacturing	14,571,682	27.7%	7,793,046	21.0%	20,820,872	29.6%	18,672,977	22.1%	20,452,079	17.9%	8,298,005	14.1%	14,865,72	10.4%
Wholesale trade	197,497	3.7%	223,491	3.0%	2,221,601	4.4%	1,442,987	4.6%	5,071,038	4.4%	4,698,757	3.6%	3,814,822	2.8%
Retail trade	6,186,351	12.9%	7,777,681	13.6%	4,481,000	6.1%	8,194,006	11.9%	14,021,687	12.3%	15,321,715	11.7%	16,326,801	11.6%
Transportation and warehousing, and utilities	4,283,302	8.1%	98,451	1.6%	5,326,480	7.3%	5,952,222	7.5%	6,226,082	7.2%	6,740,302	5.2%	6,087,022	5.0%
Information	0	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,096,584	3.1%	2,050,800	2.1%
Finance and insurance, and real estate and rental and leasing	198,220	3.8%	249,430	4.8%	3,019,750	5.4%	3,357,726	8.7%	7,034,870	7.0%	4,855,972	6.9%	12,021,800	8.6%
Professional, scientific, and management, and administrative and waste management services	1,014,571	2.9%	1,071,861	9.2%	5,502,952	7.8%	3,092,166	5.3%	4,855,972	4.1%	12,061,665	12.0%	15,071,721	10.7%
Educational services, and health care and social assistance	1,187,230	8.3%	438,619	7.5%	12,337,164	16.9%	15,500,265	29.6%	28,008,247	23.7%	25,844,029	19.9%	20,581,120	12.2%
Arts, entertainment, and recreation, and accommodation and food services	2,259,636	4.2%	2,201,546	4.1%	2,871,290	3.9%	4,165,722	5.5%	7,100,420	6.2%	10,291,235	7.9%	12,203,67	9.4%
Other services, except public administration	2,961,620	5.5%	1,641,031	2.9%	1,451,000	2.0%	1,985,188	2.4%	3,040,189	2.7%	6,320,622	4.9%	7,056,607	5.0%
Public administration	2,481,779	4.9%	1,201,890	5.7%	4,201,301	5.9%	4,403,296	5.5%	5,598,077	4.9%	8,320,715	4.8%	7,008,775	5.1%
Total	51,800,074		59,504,540		72,844,326		75,125,525		114,129,322		120,721,512		140,209,549	

Table 1. Proportional Employment by Industry in Winona County and the United States between 1950 and 2010. Data from the U.S. Census.



Winona's next opportunity is to leverage the growing arts and recreation economy into the riverfront. One opportunity to catalyze this would be to partner with the burgeoning arts and entertainment festivals already thriving in Winona. An example of this growing attention was seen in April, 2013, when an Earth Day celebration was held in Levee Park as part of the Midwest Music Festival. Secondly, the ongoing Winona farmers market is also located within walking distance of the river.

If events like this are to grow and connect to the riverfront, Winona has an opportunity to re-prioritize a pedestrian experience downtown that links river-based amenities, restaurants, venues and attractions to each other and to the river. This is in addition to the proposed increase in bicycle and pedestrian trails already promoted by the 2007 Comprehensive Plan, which also states that "... green pedestrian and bike trails [will] connect Levee Park, the downtown, Winona's cultural landmarks, college and university campuses..."

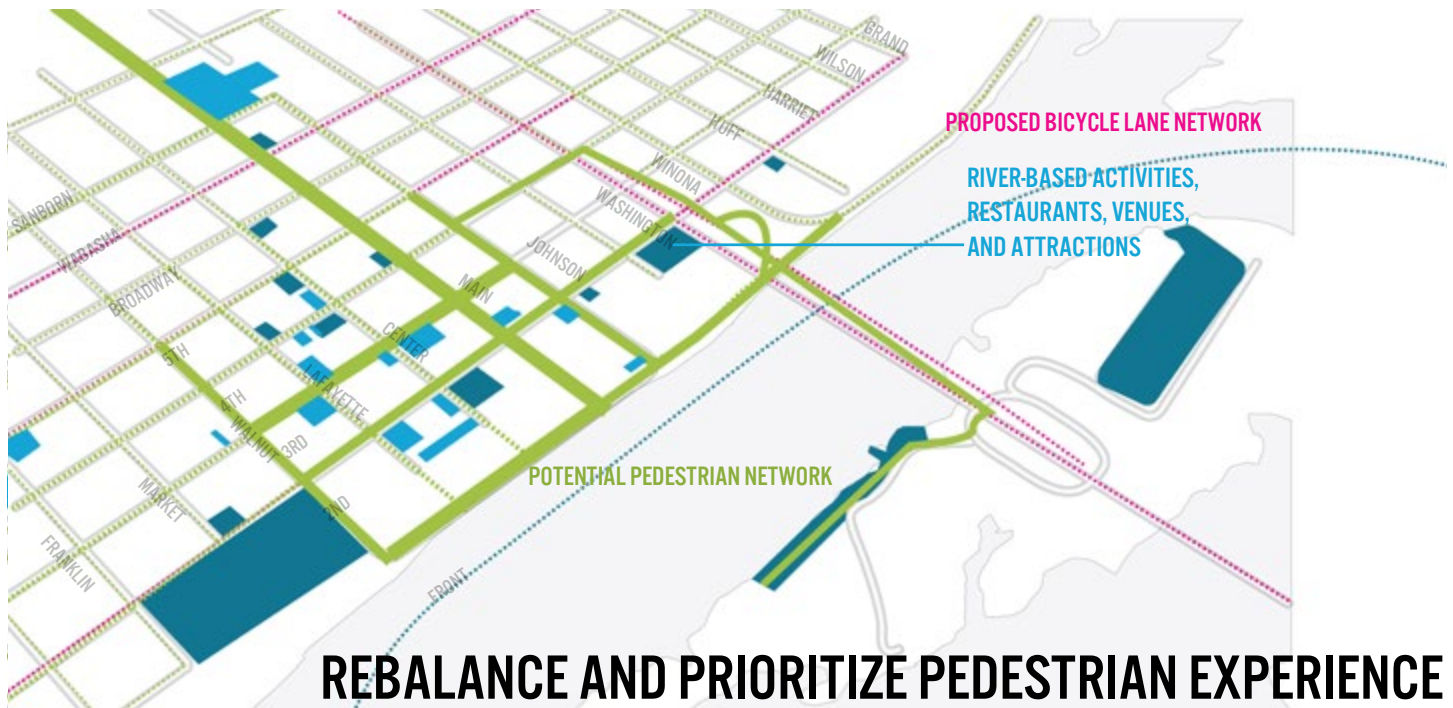


Figure 12. Potential pedestrian and bicycle connections within downtown.

7. AVOID THE UNINTENTIONAL CONSEQUENCES OF INFRASTRUCTURE

The final primary opportunity that the Center for Changing Landscapes research team proposes to the community of Winona is to carefully consider the impacts of infrastructure. Winona has the capacity to retrofit old infrastructure projects that no longer (or never did) serve to increase the quality of life of residents in ways that are increasingly valued by urban communities. Public space, recreational amenities, beautiful streetscapes, healthy ecosystems--these amenities are increasingly understood to be more than "amenities" but rather cornerstones of healthy cities. Winona is also in a position to leverage new infrastructure projects that could serve to increase the quality of life in this way.



LEFT: Levee Park in the flood of 1965. Photo by Winona Daily News. RIGHT: Clipping from Winona Daily News on September 14, 1968.

Should There Be Flood Wall In Levee Park? The Arguments

[illegible]

The construction of the levee wall surrounding Winona came primarily in response to high floods in the mid-1960s that destroyed property along the Winona riverfront. While residents today may consider the presence of a flood wall in Winona and in Levee Park a given, there was much debate whether such a significant piece of infrastructure was worth the cost at the time. One alternative to the levee as we know it was suggested by the Winona County Historical Society in order to preserve Levee Park, once known as “Riverside Park,” in its historic configuration. The U.S. Army Corps of Engineers references this effort in its Interim Survey Report for Flood Control: Mississippi River at Winona, Minnesota from 1970:

"As early as the initial public hearing held in september 1965, concern was expressed by the Winona County Historical Society regarding the effects a flood control project would have on a 4-block strip of historic Mississippi River frontage just downstream from the Minnesota Highway 43 and Chicago and North Western Railway bridges. This area, known as Levee Park, once served as a docking facility during the steamboat days on the Mississippi River and now features the last remaining wooden-hull, stern-wheel steamboat, the Julius C. Wilkie, which is enshrined there as a monument and museum to that historic era. The Winona County Historical Society hosts over 10,000 visitors annually who tour this unique historical attraction." - p. 32

The Winona County Historical Society advocated for an alternative plan in Levee Park that would feature a concrete floodwall landward of the park, a 2'-high wall that extended up from the riverfront and into downtown. This would still protect downtown from flooding but also preserve the park. However, this plan was disregarded by the project sponsors.

"The basis for their decision centers around the city well field which is presently located in the park. The wells would remain subject to flooding if the historical society plan were adopted. Unless flood protection is provided, the city would have to relocate the well field and a newly constructed iron removal plant at a cost estimated at \$1.5 to \$2 million. Additional costs estimated to exceed \$500,000 would also result if the historical society plan were adopted due in part to the extensive sewer modifications, required closure structures at street crossings, and miscellaneous structural work required." p. 32

Ironically, by avoiding the \$1.5 million or more extra expense of this plan, the city of Winona adopted the design of Levee Park as we know it today, which ultimately was projected to cost \$9 million. By the end of construction the levee cost over \$30 million.

As Winona faces new infrastructure projects and considers retrofitting its riverfront for new uses, the city has a great opportunity to thoroughly evaluate the costs and benefits of large scale projects, consider the goals of its community and advocate for its demands.

Winona also has the opportunity to retrofit old spaces created by infrastructure that no longer serve their highest and best use. For example, downtown Winona, like many small towns in the Midwest, contains a large amount of parking spaces, vacant lots and easements for railroad and flood control infrastructure, especially concentrated near the riverfront.



Figure 12. Slide from community presentation highlighting barrier of empty parking lot in comparison to the railroad.

If Winona hopes to encourage pedestrian traffic and draw people to the riverfront, the parking lots provide an initial opportunity for redevelopment.

Another opportunity to use infrastructure projects as catalysts to create open space presents itself to Winona in the



Figure 13. Figure ground study of surface area taken up by surface parking, vacant lots, railroad corridor and the levee edge.

form of the new bridge. Currently being design and engineered by SRF Consulting in partnership with the Minnesota Department of Transportation, the new bridge will span from Latsch island over the river into downtown Winona, landing on 4th street. The area underneath the bridge, as well as the pedestrian/bicycle connection from bridge to riverfront grade, are currently both areas for Winona to consider as foci in its efforts to enhance and connect activities along the river.



Figure 14. Figure ground study of surface area taken up by surface parking, vacant lots, railroad corridor and the levee edge in addition to open space created by construction of the new bridge.



RIGHT: Louisville Waterfront Park, KY. Photo by archdaily.com CENTER/LEFT: Brooklyn Bridge Park, NY. Rendering by Michael van Valkenburg Associates.

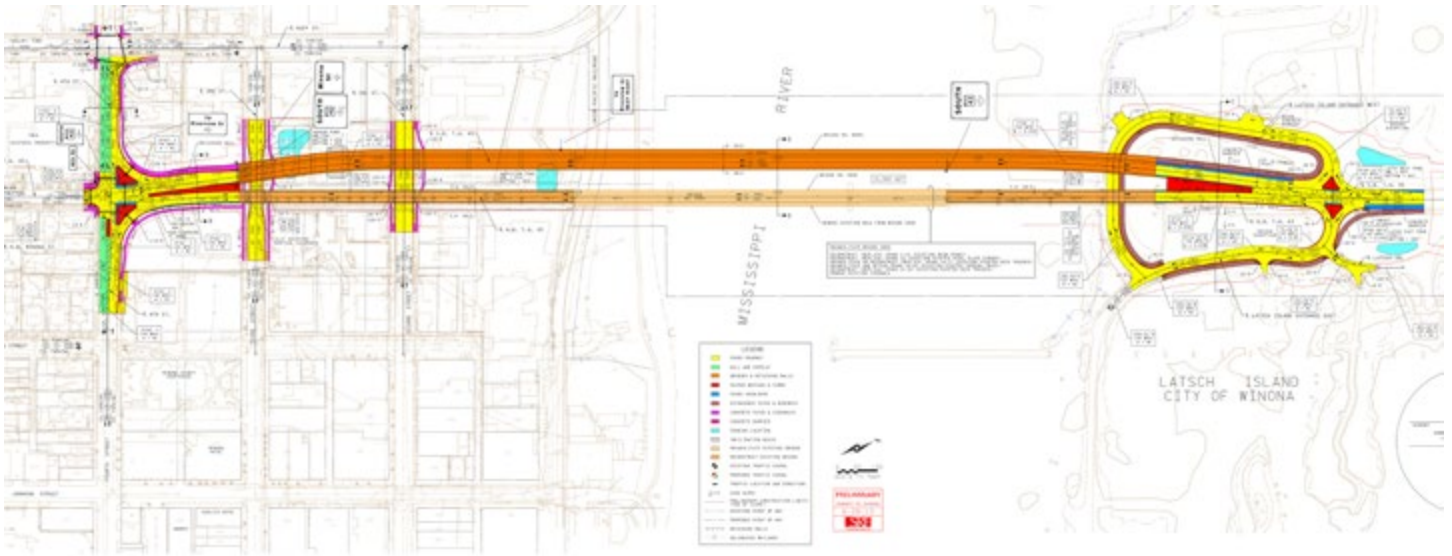


Figure 15. Preliminary drawing of new bridge design by SRF consulting showing proposed alignment and impact on existing roads and parcels.



Figure 16. Study model by CCL of new bridge as per designs shared by SRF consulting. Areas highlighted in red are opportunities to claim open space or connections to riverfront.

Precedents like Brooklyn Bridge Park in New York demonstrate how riverfront parks can interact with bridges, connecting the river edge beneath each span. Louisville's Waterfront Park features a bridge with a pedestrian and bicycle ramp that not only brings people off of the span to the riverfront grade but also frames views of the Ohio River.

As the bridge project continues, Winona has an opportunity to advocate for connections and spaces that comply with their 2007 Comprehensive Plan's goals to enhance the riverfront.

CONCLUSION

Winona is clearly a community with important connections to its water resources. Some of these connections are utilized effectively, some connections are in need of re-connection, and other connections are less understood or under-developed. Winona's riverfront presents a myriad of under-developed or unrealized amenities. Currently dominated by a flood control structure and transportation infrastructure, the edge of the Mississippi in Winona stands to become the center of transformation for the entire city. Winona has an opportunity to reclaim its river-based identity, renew its relationship to the Mississippi River and redefine the economic and cultural value of the riverfront.

Researching Winona's cultural, economic and geographic trends in the context of history shows that the community's relationship the Mississippi river has changed over time and will continue to evolve. The geography of the riverfront has historically been defined by the city's economic identity. Transportation infrastructure that supported industry grew during the same period that people began to retreat from the city center to suburban "back yards," leaving the downtown riverfront susceptible to the physical changes brought in response to flooding in the 1960's. However, Winona, like many other communities, is re-discovering the benefits of a thriving downtown, communal recreation areas and vibrant public space.

As Winona's economy changes, so too can its riverfront landscape. By embracing the vibrant arts, music, and entertainment initiatives already growing in Winona, the community can direct the same grassroots momentum to improve public access, recreation and other programming that celebrates the river. This can also increase access, strengthen economic vitality, and support tourism.

With the momentum for redevelopment provided by the Riverfront Committee and the catalytic large infrastructure changes to be introduced with the new bridge, Winona has a great opportunity to reconsider the relationship between infrastructure and public space and to embrace new changes that can enhance the community as a great place to live, work and visit.



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